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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/822,679	03/30/2001	Srinivas Kandala	8371-117	9227
46404	7590	06/24/2005	EXAMINER	
MARGER JOHNSON & MCCOLLOM, P.C. - SHARP 1030 SW MORRISON STREET PORTLAND, OR 97205			MATTIS, JASON E	
			ART UNIT	PAPER NUMBER

2665

DATE MAILED: 06/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 09/822,679	Applicant(s) KANDALA, SRINIVAS	
	Examiner Jason E. Mattis	Art Unit 2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2005.
 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1-23 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is in response to the amendment filed on 3/1/05. Claims 1-23 are currently pending in the application.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claims 1 and 2, both claims state, "A wireless communication device comprising ... a physical layer ... a second layer ... a network layer ...". A device is not comprised of layers. Layers are not physical components. A device can implement a physical layer, second layer, and network layer, but a device cannot be comprised of these layers. It is recommended that claims 1 and 2 be reworded to more accurately claim a device that is made up of physical components that implement a physical layer, second layer, and network layer.

With respect to claim 3, this claim uses the acronyms "RME" and "SME"; however there is no definition of these acronyms in the claim or in the specification preceding the claims. On page 9 of the Applicant's Remarks, it is stated that claim 3

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has been amended to define the acronyms; however, claim 3 has not be amended.

Further page 6, lines 12-32 of the specification are cited for support for definitions of these acronyms; however there is no definition of "RME" or "SME" on this page. It is still unclear what is meant by "RME" and "SME".

Claims 4-5 are rejected under 35 U.S.C. 112, second paragraph, since they depend on claims 1 and 2 respectively.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 2 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Hulyalkar et al. (U.S. Pat. 5787080).

With respect to claim 2, Hulyalkar et al. discloses a wireless communication device (See column 6 line 31-42 and Figure 3 of Hulyalkar et al. for reference to base station 12, which is a wireless communications device). Hulyalkar et al. also discloses a physical layer (See column 6 lines 31-42 and Figure 3 of Hulyalkar et al. for reference to the base station 12 having a wireless physical layer). Hulyalkar et al. further discloses receiving a reservation request (See column 8 lines 16-67 of Hulyalkar et al. for reference to receiving a control frame including a reservation

request from a mobile terminal). Hulyalkar et al. also discloses a second layer on top of the physical layer **(See column 6 line 31-42 and Figure 3 of Hulyalkar et al. for reference to a wireless MAC layer on top of the wireless physical layer of the base station 12).** Hulyalkar et al. further discloses receiving a reservation request from the physical layer **(See column 8 lines 16-67 of Hulyalkar et al. for reference to receiving the control frame with the control frame being a part of a MAC layer reservation-based communications protocol, meaning the control frame is sent to the wireless MAC layer of the base station 12).** Hulyalkar et al. also discloses a network layer on top of the second layer **(See column 6 line 31-42 of Hulyalkar et al. for reference to an ATM layer on top of the wireless MAC layer of the base station 12).** Hulyalkar et al. further discloses that the second layer is adapted to process and finally resolve the received reservation request without accessing the network layer **(See column 8 line 43 to column 9 line 49 of Hulyalkar et al. for reference to a slot conformation phase in which the MAC layer reservation-based communications protocol sends a message to all mobile terminals 54 indicating the slots, or bandwidth, allocated to each mobile terminal 54 after all reservation requests have been analyzed).**

With respect to claim 5, Hulyalkar et al. discloses that the second layer is adapted to process and finally resolve the reservation request based on Quality of Service considerations **(See column 11 line 53 to column 12 line 5 of Hulyalkar et al. for reference to using the control frame to negotiate QoS requirements).**

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 4, and 6-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Immonen et al. (U.S. Pat. 6738361) in view of Hulyalkar et al. and in further view of Kondylis et al. (U.S. Pat. 6721290).

With respect to claim 1, Immonen et al. discloses a wireless communication device (See column 5 lines 38-47 and Figure 1 of Immonen et al. for reference to a wireless terminal 300, which is a wireless communication device). Immonen et al. also discloses a physical layer adapted to transmit a reservation request about an impending transmission of data (See column 5 line 63 to column 6 line 9, column 7 lines 31-49, and Figure 1 of Immonen et al. for reference to the device transmitting a radio resource request over a wireless medium, which is a physical layer). Immonen et al. further discloses a second layer on top of the physical layer (See column 5 line 63 to column 6 line 9 and Figure 1 of Immonen et al. for reference to radio link layer 3004 on top of the physical layer). Immonen et al. also discloses a third network layer on top of the second layer (See column 5 line 63 to column 6 line 9 and Figure 1 of Immonen et al. for reference to an IP layer 3003 on top of the

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radio link layer 3004). Immonen et al. further discloses generating a tag about the impending transmission of data and imparting the tag in the resource reservation **(See column 7 lines 31-49 and Figure 2 of Immonen et al. for reference to generating a resource reservation request, step 3, that includes data about an impending transmission).** Immonen et al. discloses sending priority information about an impending transmission in a data packet **(See column 9 line 59 to column 10 line 10 of Immonen et al. for reference to prioritizing IP flows using information in packets);** however, Immonen et al. does not specifically disclose encoding the priority information in a resource request. Immonen et al. also does not disclose that the reservation request is received and decoded in at a Medium Access Control layer of a receiving device to resolve the reservation request.

With respect to claim 4, Immonen et al. discloses that the reservation request is transmitted and received according to an IEEE 802.11 standard **(See column 6 lines 49-58 of Immonen et al. for reference to using the IEEE 802.11 protocol).** Immonen et al. does not disclose that the reservation request is decoded at the MAC layer without advancing to a third network layer.

With respect to claims 6, 12, and 18, Immonen et al. discloses a device, an article comprising a storage medium with instructions executed by a device processor, and a method **(See column 4 line 63 to column 5 line 8, column 5 lines 38-47, and Figure 1 of Immonen et al. for reference to wireless terminal 300, which is a device that comprises a memory and processor with a program code to execute a method).** Immonen et al. also discloses conducting wireless communications

according to an IEEE 802.11 standard (**See column 6 lines 49-58 of Immonen et al. for reference to using the IEEE 802.11 protocol**). Immonen et al. further discloses generating a reservation request for transmitting data at a third network layer in the OSI model (**See column 7 lines 31-49 and Figure 2 of Immonen et al. for reference to generating a resource reservation request, step 3, at a third IP layer**). Immonen et al. also discloses passing a resource reservation tag to a medium access control layer (**See Figure 1 of Immonen et al. for reference to a radio link layer 3004, which is a medium access control layer, which Immonen et al. must pass a resource reservation request to in order to send the request wireless to another device**). Immonen et al. further discloses transmitting the request frame to a wireless receiving device (**See column 7 lines 31-49 and Figure 2 for reference to forwarding the resource reservation request, step 3, to a wireless access point 400**). Immonen et al. discloses sending priority information about an impending transmission in a data packet (**See column 9 line 59 to column 10 line 10 of Immonen et al. for reference to prioritizing IP flows using information in packets**); however, Immonen et al. does not specifically disclose encoding the priority information in a resource request. Immonen et al. also does not specifically disclose examining data to determine a required bandwidth for transmission and encoding the bandwidth in a reservation request frame. Immonen et al. further does not disclose decoding the request frame at a Medium Access Control layer of the receiver.

With respect to claim 7, Immonen et al. does not disclose storing data in a buffer after passing it and prior to examining it.

With respect to claims 9, 15, and 21, Immonen et al. discloses a device, an article comprising a storage medium with instructions executed by a device processor, and a method **(See column 4 line 63 to column 5 line 8, column 5 lines 38-47, and Figure 1 of Immonen et al. for reference to access point 400, which is a device that comprises a memory and processor with a program code to execute a method)**. Immonen et al. also discloses conducting wireless communications according to an IEEE 802.11 standard **(See column 6 lines 49-58 of Immonen et al. for reference to using the IEEE 802.11 protocol)**. Immonen et al. also discloses receiving a reservation request frame that has been generated at a third network layer of the OSI model **(See column 7 lines 31-49 and Figure 2 of Immonen et al. for reference to wireless terminal 300 generating a resource reservation request, step 3, at a third IP layer, and sending the request to access point 400)**. Immonen et al. further discloses decomposing the reservation request frame to extract a reservation request **(See column 7 lines 31-49 and Figure 2 of Immonen et al. for reference to the wireless access point 400 processing the request)**. Immonen et al. does not specifically disclose decoding the tag while in the medium access control layer. Immonen et al. discloses sending priority information about an impending transmission in a data packet **(See column 9 line 59 to column 10 line 10 of Immonen et al. for reference to prioritizing IP flows using information in packets)**; however, Immonen et al. does not specifically disclose encoding the priority information in a resource request. Immonen et al. also does not disclose examining the priority against available resources and resolving the reservation request in terms of the examined priority.

With respect to claims 11, 17, and 23, Immonen et al. does not disclose scheduling a transmission opportunity based on the priority.

With respect to claims 14 and 19, Immonen et al. does not disclose that priority is determined based on one of a default class and an AP-designated class.

With respect to claims 1, 6, 7, 9, 11, 12, 14, 15, 17, 18, 19, 21, and 23, Hulyalkar et al., in the field of communication, discloses encoding priority information about an impending transmission in a resource request with the priority being determined based on a default class (**See column 8 lines 43-67 of Hulyalkar et al. for reference to including priority information in a connection-setup phase request and for reference to the priority being based on a default first-come-first-served class, meaning that the first request received are given priority over later requests received**). Hulyalkar et al. also discloses determining a bandwidth required for the impending transmission and encoding the bandwidth in a resource request (**See column 8 lines 43-67 of Hulyalkar et al. for reference to determining a number of slots that are needed and encoding this information in a control frame, or resource request frame**). Hulyalkar et al. further discloses storing data in a buffer prior to examining it (**See column 8 lines 43-67 of Hulyalkar et al. for reference to the MAC layer having a memory, which is a buffer, to store data while determining a bandwidth requirement**). Hulyalkar et al. also discloses examining priority against available resources and resolving the request in terms of the examined priority (**See column 8 line 16 to column 9 line 49 of Hulyalkar et al. for reference to using the control frame received as part of a MAC layer reservation-based protocol to**

determine a priority level as well as an amount of slots, or required bandwidth, of a requested connection by decoding a received control frame that includes a priority level and bandwidth requirement and using this information to resolve the reservation request by allocating a number of slots, or an amount of bandwidth, to the requesting device). Encoding priority and bandwidth requests in a reservation request and determining bandwidth allocations based on this information has the advantage of allowing system resources to be better allocated to wireless devices.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Hulyalkar et al., to combine encoding priority and bandwidth requests in a reservation request and determining bandwidth allocations based on this information, as suggested by Hulyalkar et al., with the system and method of Immonen et al., with the motivation being to allow system resources to be better allocated to wireless devices.

With respect to claims 1, 4, 6, 9, 12, 15, 18, and 21, Kondylis et al., in the field of communications, discloses decoding reservations at a medium access control layer of a receiving device without advancing to a third network layer **(See column 5 lines 42-47 of Kondylis et al. for reference to making reservations at a medium access control layer without advancing to an IP layer).** Decoding reservations at a medium access control layer of a receiving device without advancing to a third network layer has the advantage of increasing the speed of resource reservation by decreasing the overhead involved in processing a reservation request.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Kondylis et al., to combine decoding reservations at a medium access control layer of a receiving device without advancing to a third network layer, as suggested by Kondylis et al., with the system and method of Immonen et al. and Hulyalkar et al., with the motivation being to increase the speed of resource reservation by decreasing the overhead involved in processing a reservation request.

With respect to claims 8, 13, and 19, Immonen et al. discloses that he reservation request frame is generated and transmitted according to an IEEE 802.11 standard (See column 6 lines 49-58 of Immonen et al. for reference to using the IEEE 802.11 protocol).

With respect to claim 10, Immonen et al. discloses a transmitting device generating the request frame at a third network layer of an OSI model (See column 7 lines 31-49 and Figure 2 of Immonen et al. for reference to wireless terminal 300 generating a resource reservation request, step 3, at a third IP layer, and sending the request to access point 400).

With respect to claims 16 and 22, Immonen et al. discloses determining that there are insufficient resources for meeting the request and generating a reject frame (See column 7 lines 31-64 and Figure 2 of Immonen et al. for reference to returning a result of a resource reservation, which may be a rejection result, to a wireless terminal 300).

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason E. Mattis whose telephone number is (571) 272-3154. The examiner can normally be reached on M-F 8AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jem

A handwritten signature in black ink, appearing to read 'Huy D. Vu', with a long horizontal line extending to the right.

HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600